

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows. This listing of claims will replace all prior versions, and listings of claims in the application.

1. (Currently Amended) A semiconductor light-emitting element mounting member comprising:

a substrate; and

a metal film formed on a surface of said substrate, formed from Ag alone, ~~Al, or an alloy containing said metals~~, and functioning as an electrode layer for mounting at least one of a semiconductor light-emitting element and a reflective layer for reflecting light from a semiconductor light-emitting element wherein:

the thickness of the metal film is 0.5 - 3 μm ;

crystal grains of said ~~metal or alloy~~ Ag forming said metal film have a particle diameter along a surface plane of said metal film of no more than 0.5 μm ;

said surface of said metal film has a center-line average roughness Ra of no more than 0.1 μm ;

an adhesion layer and a barrier layer are formed, in sequence, on said substrate, with said metal film being formed on said barrier layer;

the thickness of the adhesion layer is 0.01-1.00 μm ; and

the thickness of the barrier layer is 0.01-1.50 μm .

2. (Canceled)

3. (Currently Amended) ~~The~~ A semiconductor light-emitting element mounting

member ~~comprising: according to claim 1~~

a substrate; and

a metal film formed on a surface of said substrate, wherein said metal film is formed as an alloy of from at least one of Ag alloy or and Al alloy, wherein the Ag alloy or the Al alloy includes and other metal, a proportional content of said other metal being 0.001 – 5 [[10]] percent by weight, said metal film functioning as an electrode layer for mounting at least one of a semiconductor light-emitting element and a reflective layer for reflecting light from a semiconductor light-emitting element; wherein:

the thickness of the metal film is 0.5 - 3 μ m;

crystal grains of said Ag alloy or Al alloy forming said metal film have a particle diameter along a surface plane of said metal film of no more than 0.5 μ m;

said surface of said metal film has a center-line average roughness Ra of no more than 0.1 μ m;

an adhesion layer and a barrier layer are formed, in sequence, on said substrate, with said metal film being formed on said barrier layer;

the thickness of the adhesion layer is 0.01-1.00 μ m; and

the thickness of the barrier layer is 0.01-1.50 μ m.

4. (Currently Amended) The semiconductor light-emitting element mounting member according to claim 3 wherein said other metal is at least one type of metal selected from a group consisting of Cu, Mg, Si, Mn, and Ti [[,]] ~~and Cr.~~

5. (Canceled)

6. (Canceled)
7. (Previously presented) The semiconductor light-emitting element mounting member according to claim 1 wherein a thermal expansion coefficient of said substrate is $1 \times 10^{-6}/\text{K}$ - $10 \times 10^{-6}/\text{K}$.
8. (Previously presented) The semiconductor light-emitting element mounting member according to claim 1 wherein a thermal conductivity of said substrate is at least 80 W/mK.
9. (Previously presented) The semiconductor light-emitting element mounting member according to claim 1 wherein said semiconductor light-emitting element mounting member is a flat submount.
10. (Previously presented) A semiconductor light-emitting device, comprising:
the semiconductor light-emitting element mounting member of claim 1; and
a semiconductor light-emitting element mounted in said semiconductor light-emitting element mounting member.
11. (Previously presented) The semiconductor light-emitting device according to claim 10 wherein the output of said semiconductor light-emitting element is at least 1 W.
12. (Previously presented) The semiconductor light-emitting mounting member

according to claim 1 wherein said substrate is an insulative ceramic.

13. (Previously presented) The semiconductor light-emitting mounting member according to claim 12 wherein the insulative ceramic is selected from a group consisting of AlN, Al₂O₃, SiC, Si₃N₄, BeO, BN, and insulative Si.

14. (New) A semiconductor light-emitting element mounting member comprising:
a substrate; and

a metal film formed on a surface of said substrate, formed from Al alone, and functioning as an electrode layer for mounting at least one of a semiconductor light-emitting element and a reflective layer for reflecting light from a semiconductor light-emitting element; wherein:

the thickness of the metal film is 0.5 - 3 μm ;

crystal grains of said Al forming said metal film have a particle diameter along a surface plane of said metal film of no more than 0.5 μm ;

said surface of said metal film has a center-line average roughness Ra of no more than 0.1 μm ;

an adhesion layer and a barrier layer are formed, in sequence, on said substrate, with said metal film being formed on said barrier layer;

the thickness of the adhesion layer is 0.01-1.00 μm ; and

the thickness of the barrier layer is 0.01-1.50 μm .

15. (New) A device to mount a semiconductor light-emitting element comprising:
a substrate; and

a pair of metal films formed on a surface of said substrate, formed from Ag by itself, Al by itself, an Al alloy comprising primarily Al, or an Ag alloy comprising primarily Ag, adapted to have the semiconductor light-emitting element mounted thereon and adapted to reflect light emitted by the semiconductor light-emitting element mounted thereon,

wherein the pair of metal films are separated by a gap above the substrate,
wherein the pair of metal films are adapted to have the semiconductor light-emitting element mounted above the gap;

wherein:

the thickness of the metal film is 0.5 - 3 μm ;

crystal grains of said Ag by itself, Al by itself, Al alloy comprising primarily Al, or Ag alloy comprising primarily Ag forming said metal film have a particle diameter along a surface plane of said metal film of no more than 0.5 μm ;

said surface of said metal film has a center-line average roughness Ra of no more than 0.1 μm ;

an adhesion layer and a barrier layer are formed, in sequence, on said substrate, with said metal film being formed on said barrier layer;

the thickness of the adhesion layer is 0.01-1.00 μm ; and

the thickness of the barrier layer is 0.01-1.50 μm .